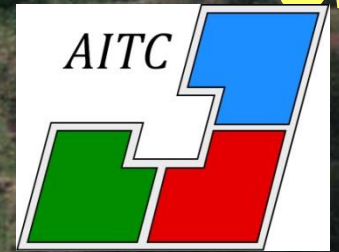
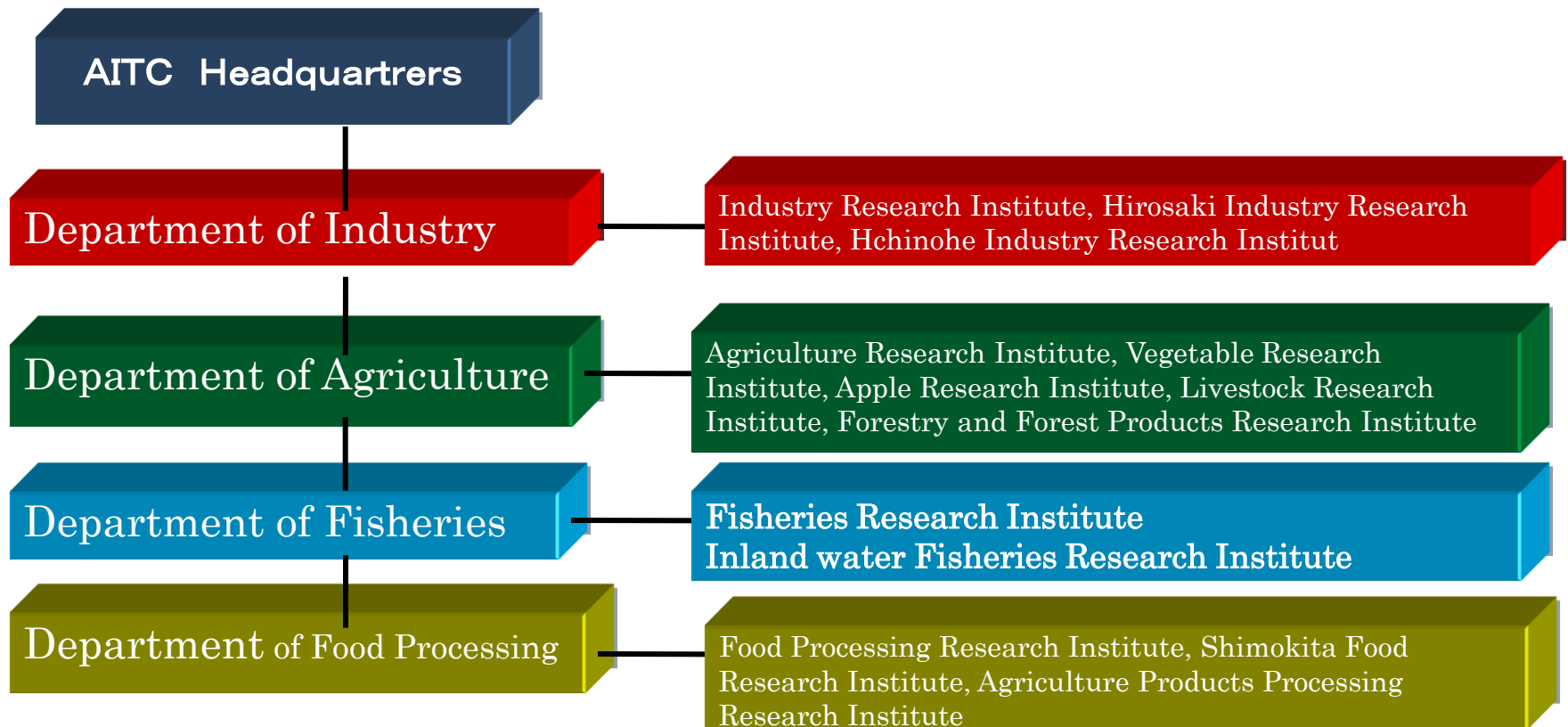


Aomori Prefectural Industrial Technology Research Center Fisheries Research Institute And Fisheries in Aomori Prefecture



Organization of Aomori Prefectural Industrial Technology Research Center

- Four Department and thirteen Institute



Organization of Fisheries Research Institute



Director

Research Planning Manager

General Affair section

Fisheries Resources management Section

Fisheries Ground Environment Section

Scallop section

Fisheries Resources Enhancement Section

Vessel

Kaiun-maru

Seiho-maru

Natsudomari

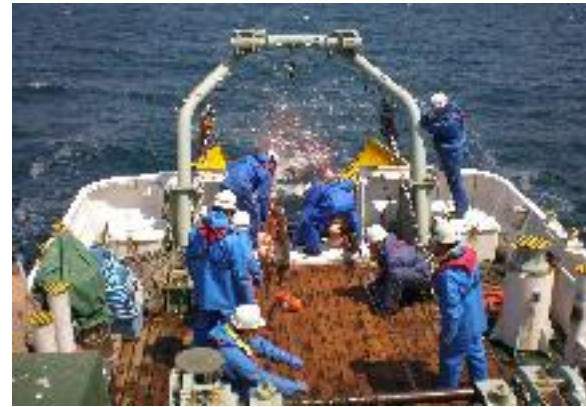


Fisheries Resources Management Section

- Development of fisheries resources management methods for the effective and continuous using of marine resources
- Prediction of fishery condition and marine condition



Ear stone of flounder



Trawl research

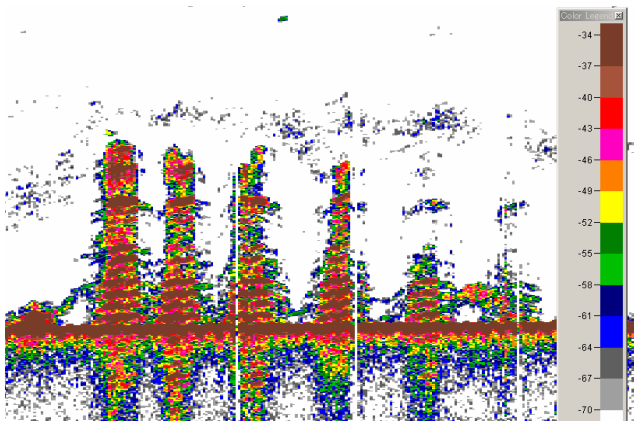


Image of fishery finder



Rockfishes crowding around a man-made fishing reef

Fisheries Ground Environment Section

- Analysis and assessment of fishery environment and water quality
- Information service on fishery environment
- Monitoring and study on toxin producing phytoplankton



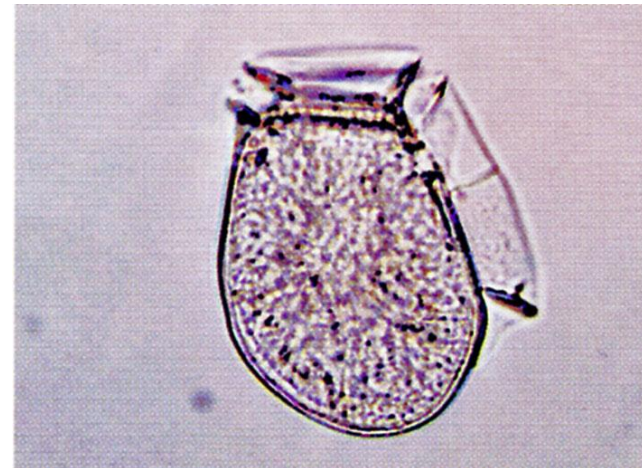
Automatic Marine
Environment
Observation Buoy



Nutrient Analysis



Research of Squid



DSP causative plankton

Scallop section

- Survey about maturation and larva of scallop
- Development of scallop culture techniques
- Information service about seed collection and culture management
- Development of Ark shell culture techniques



Maturation survey



Larva survey



Bottom culture survey

Fisheries Resources Enhancement Section

- Development of mass production of fishes and seaweed seeds
- Development of release techniques of artificial fish seeds
- Development of enhancement techniques of marine resources



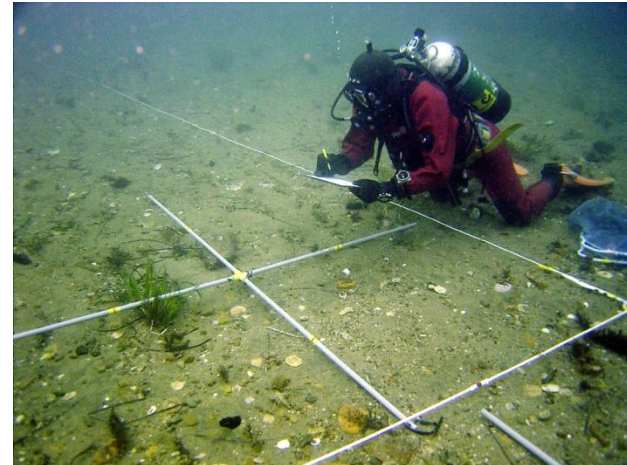
Seed production of fishes



Artificial fertilization of flatfish

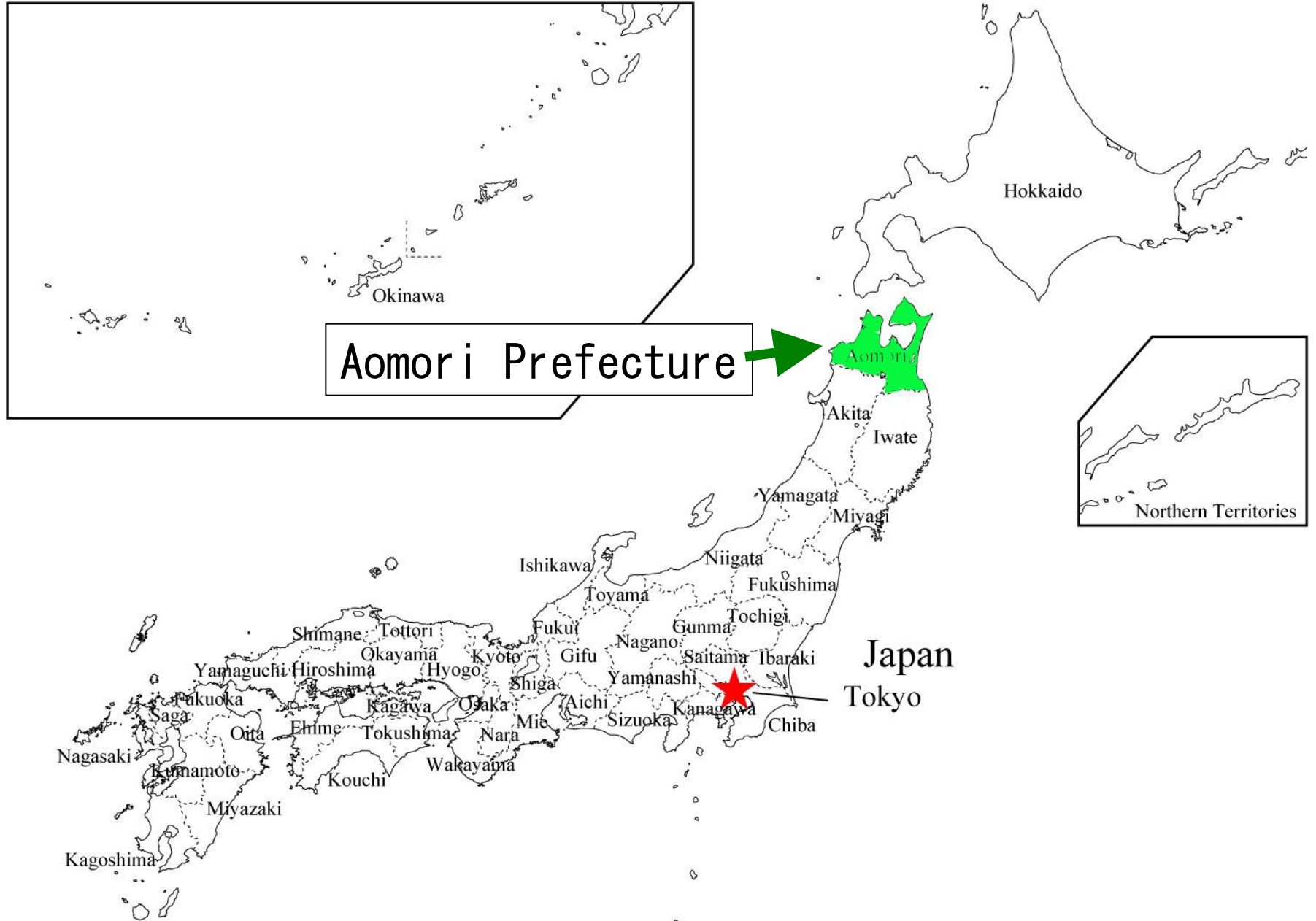


Indoor management of seaweeds

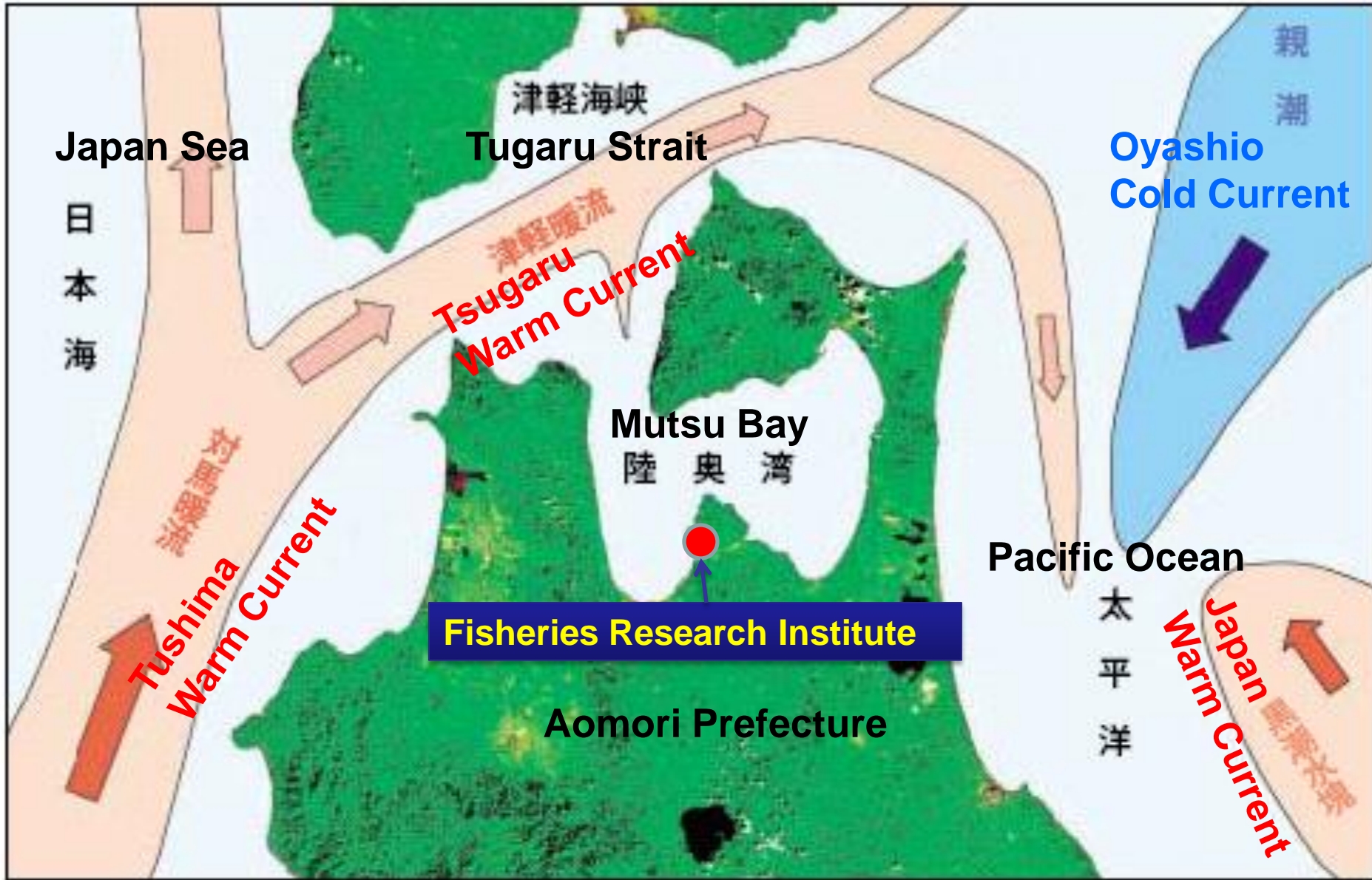


Scuba investigation

1 Location of Aomori prefecture



2 Marine environment in Aomori



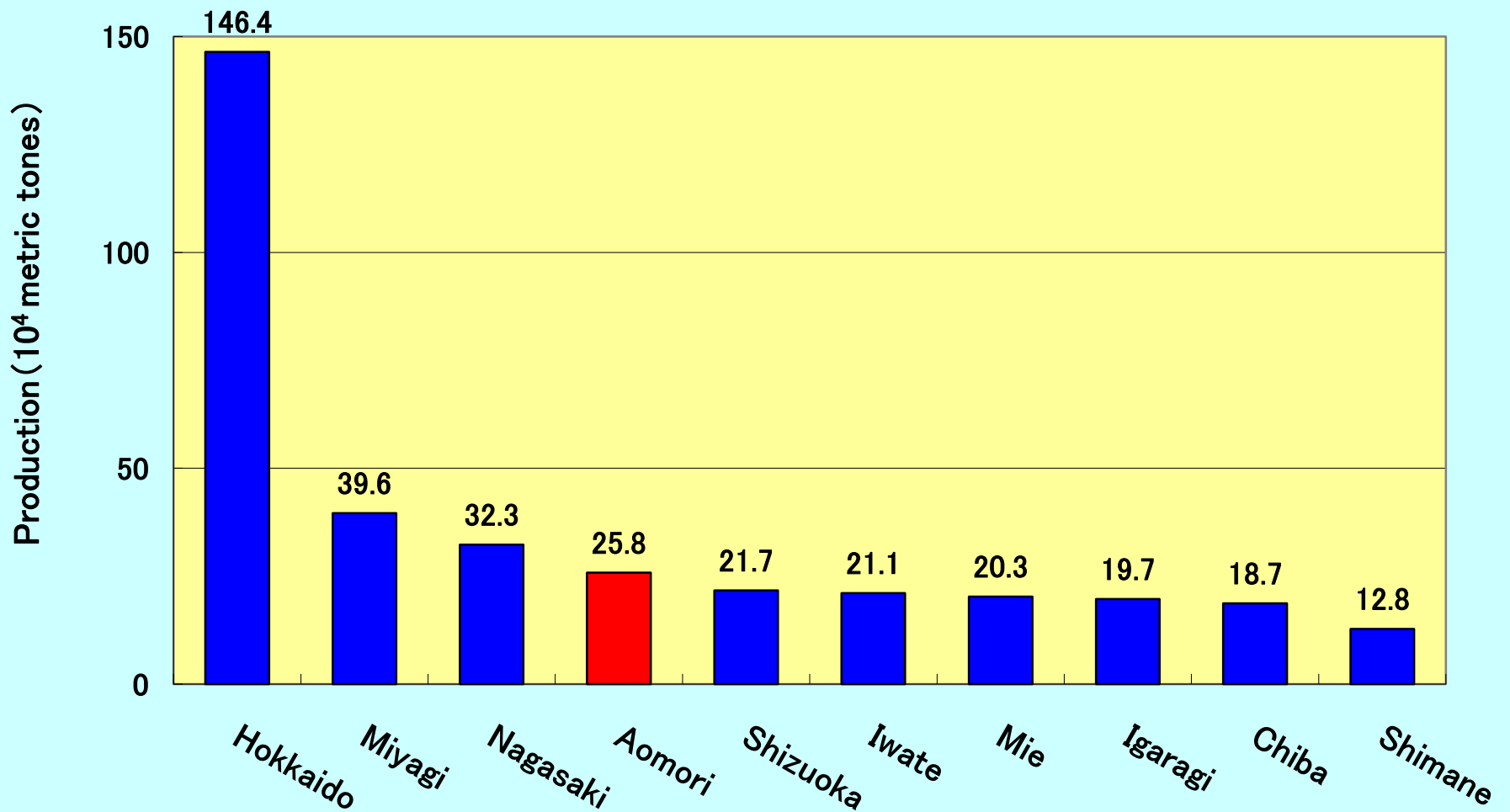
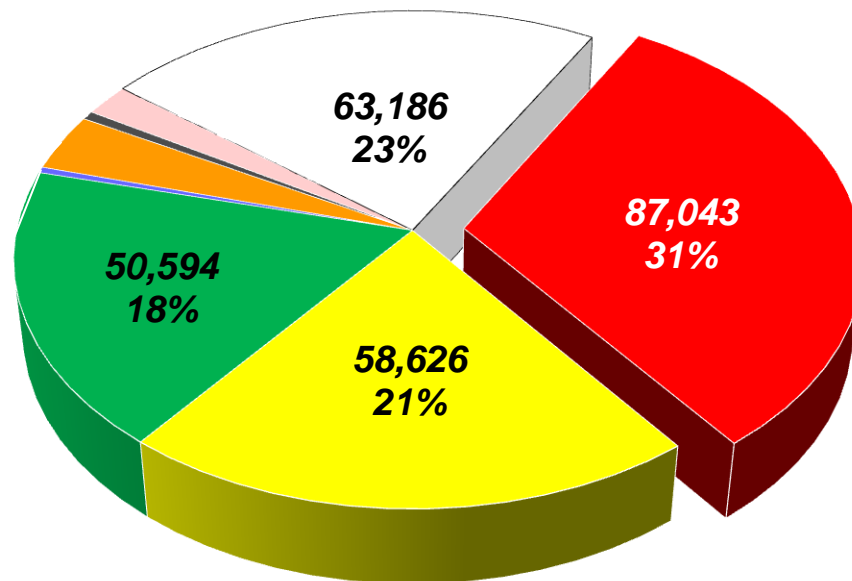


Fig. Fisheries production in Japan (2008)



- Scallop
- Japanese Common Squid
- Sardine
- Tuna
- Flying squid
- Sea Cucumber

Fig. Fisheries production of main marine species in Aomori (metric tonnes)

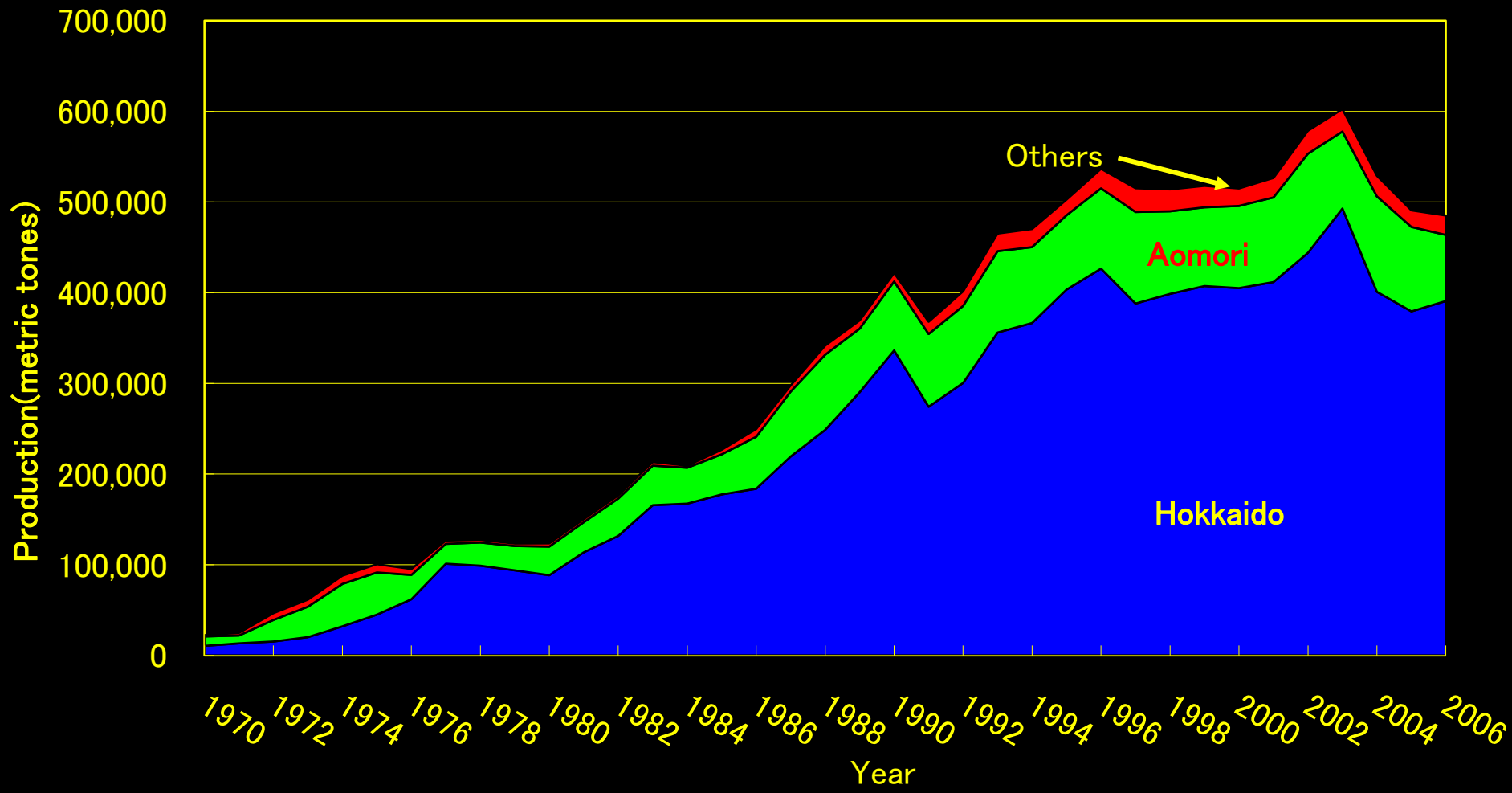
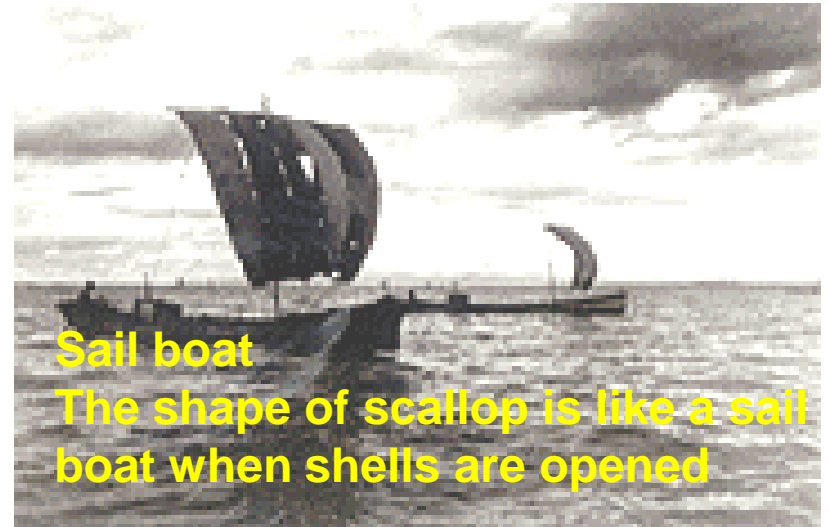


Fig. Change in annual production of Japanese Scallop in Japan

Fig. Image of scallop



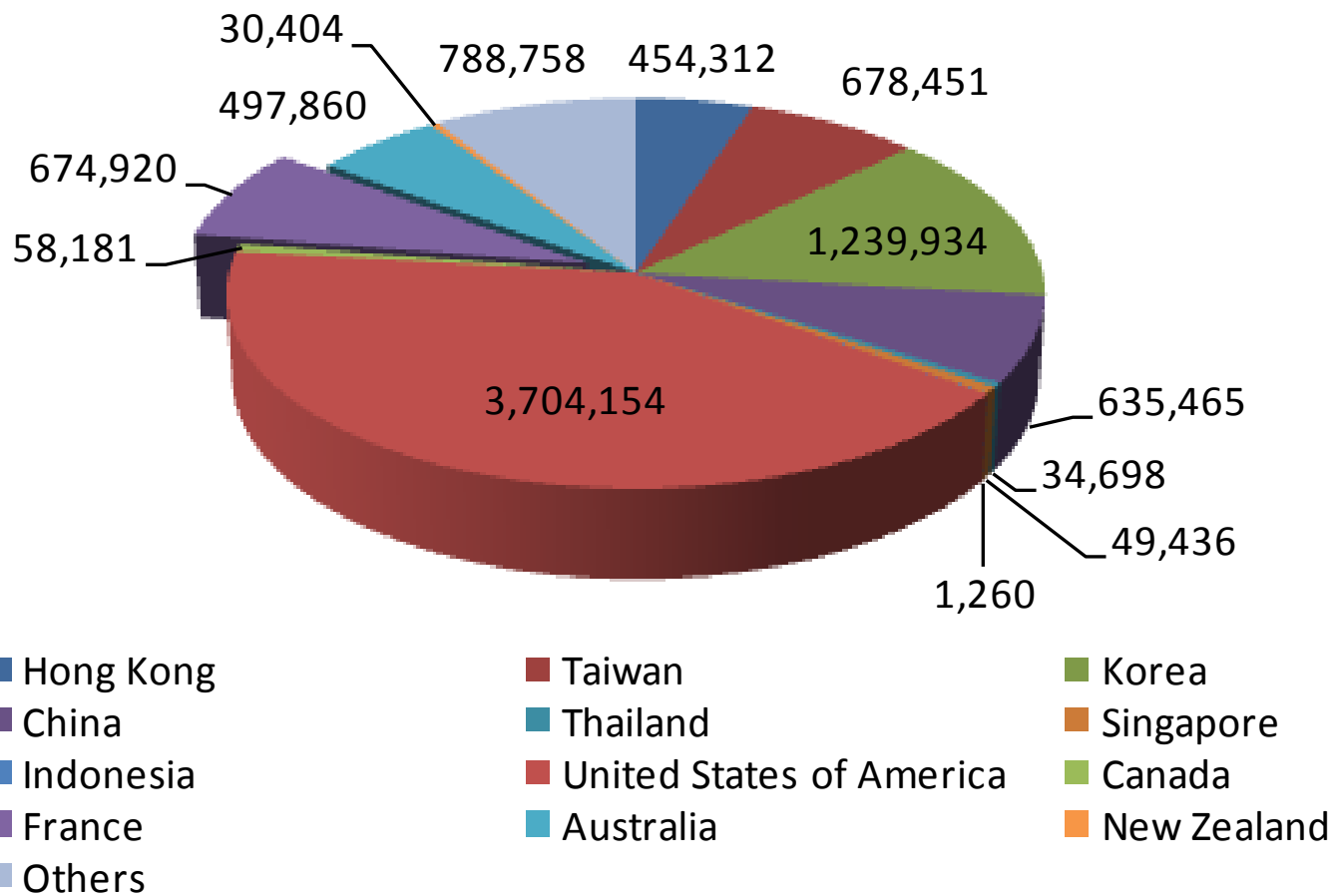


Fig. Amount of Scallop Products Exported from Japan(Kilograms)

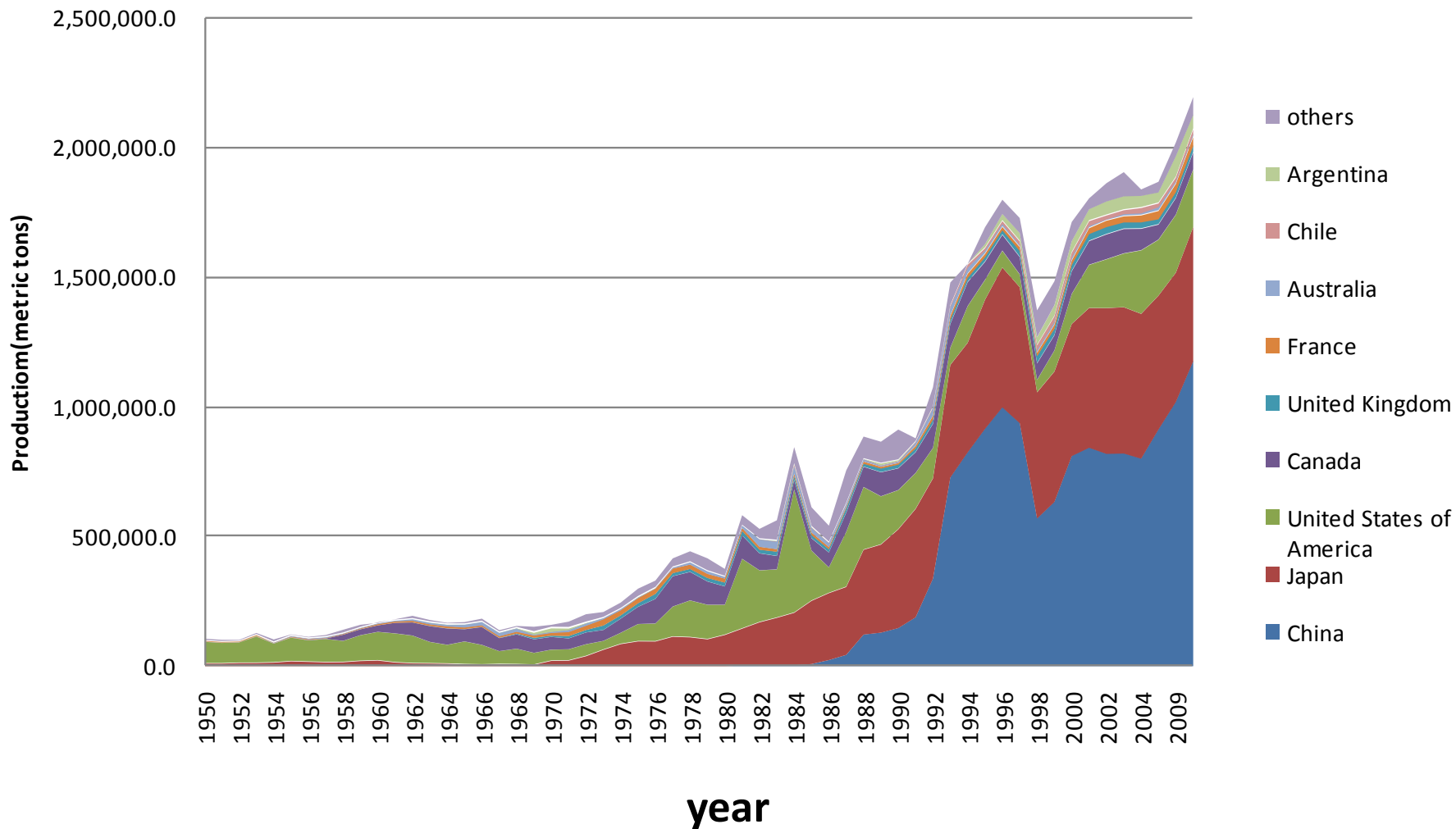


Fig. Scallop Production in the World

5 Scallop Culture in Aomori

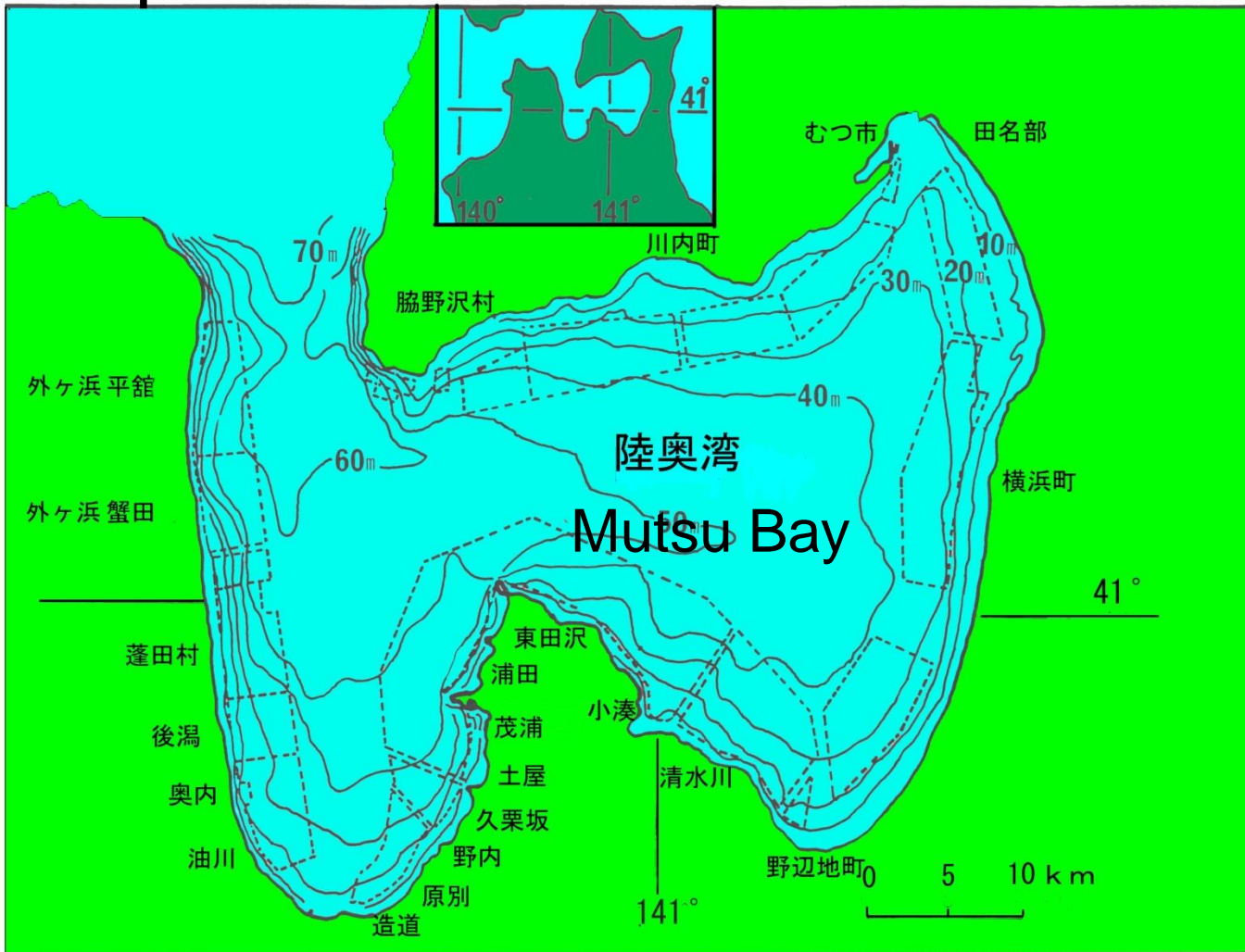


Fig. Scallop culture in Mutsu Bay

- Area of Mutsu Bay 1,660km²
- Coastline of Mutsu Bay 246km
- Area of scallop culture 500km² (dotted line)

(1) Bottom culture of scallop

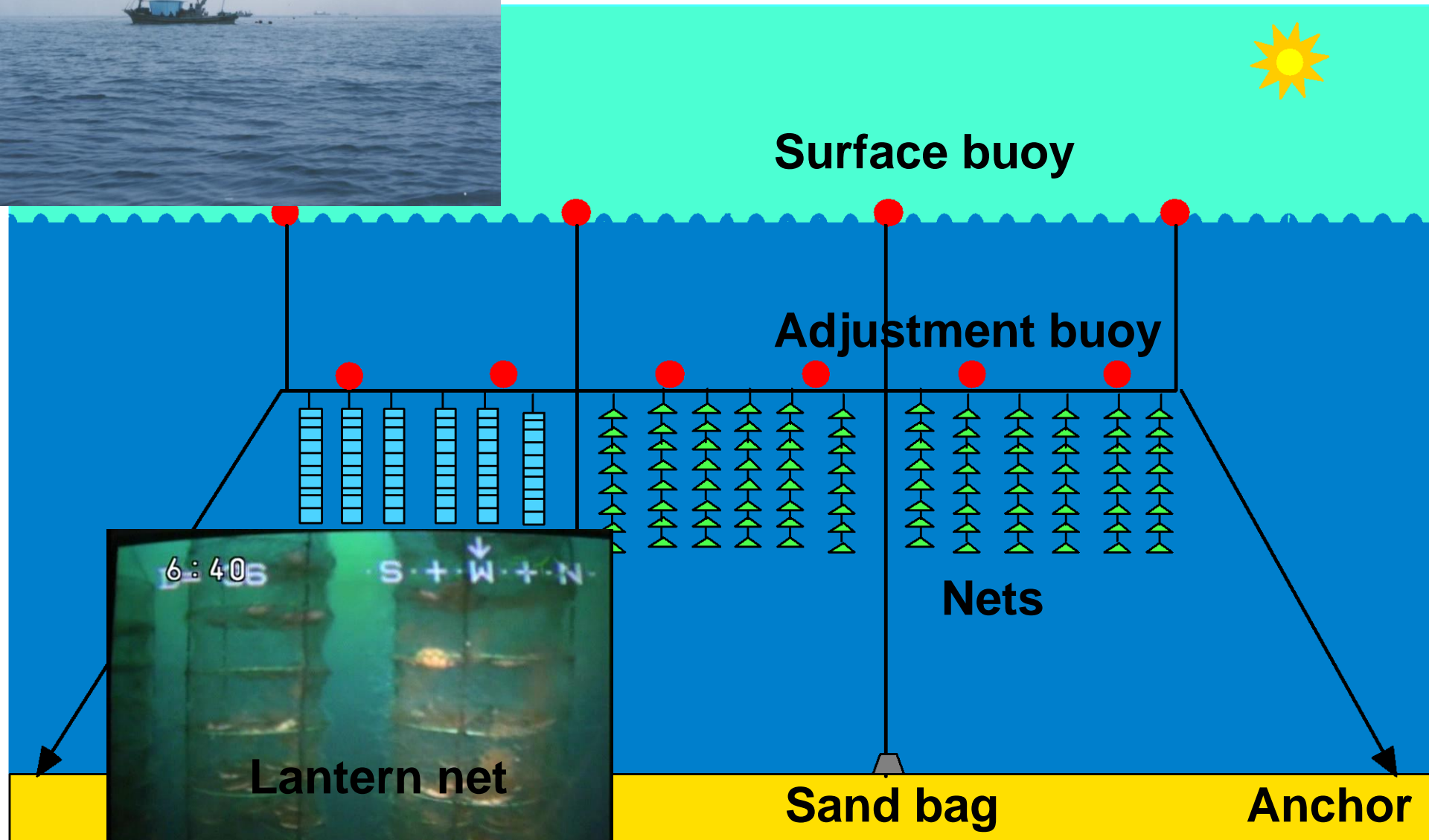


Seeds released in autumn or spring



Rearing on the sea bed for one or two years after release

(2) Hanging culture of scallop (Long line system)





**Spat Collector
(Onion bag)**

Pearl net



Lantern net



Ear hanging

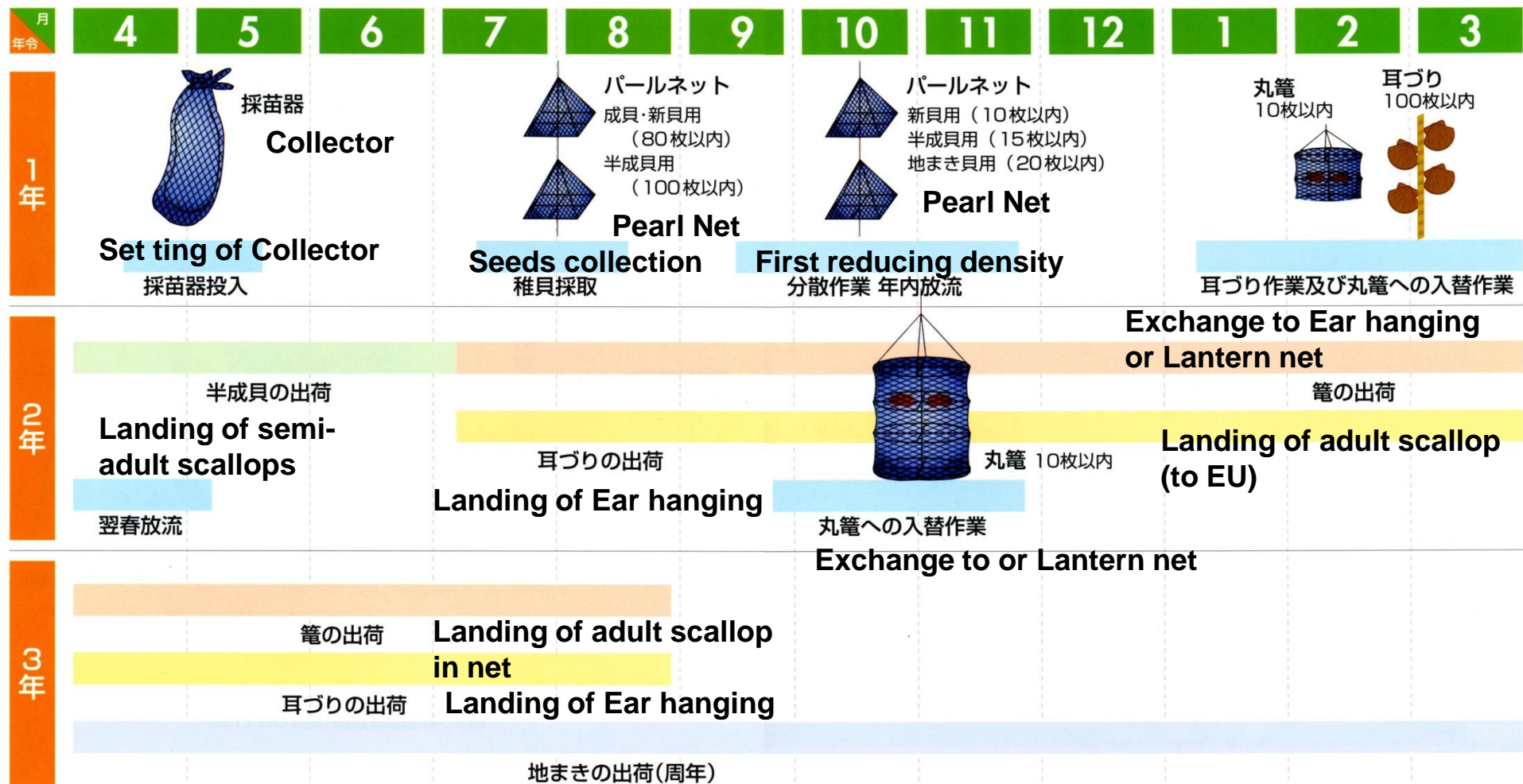
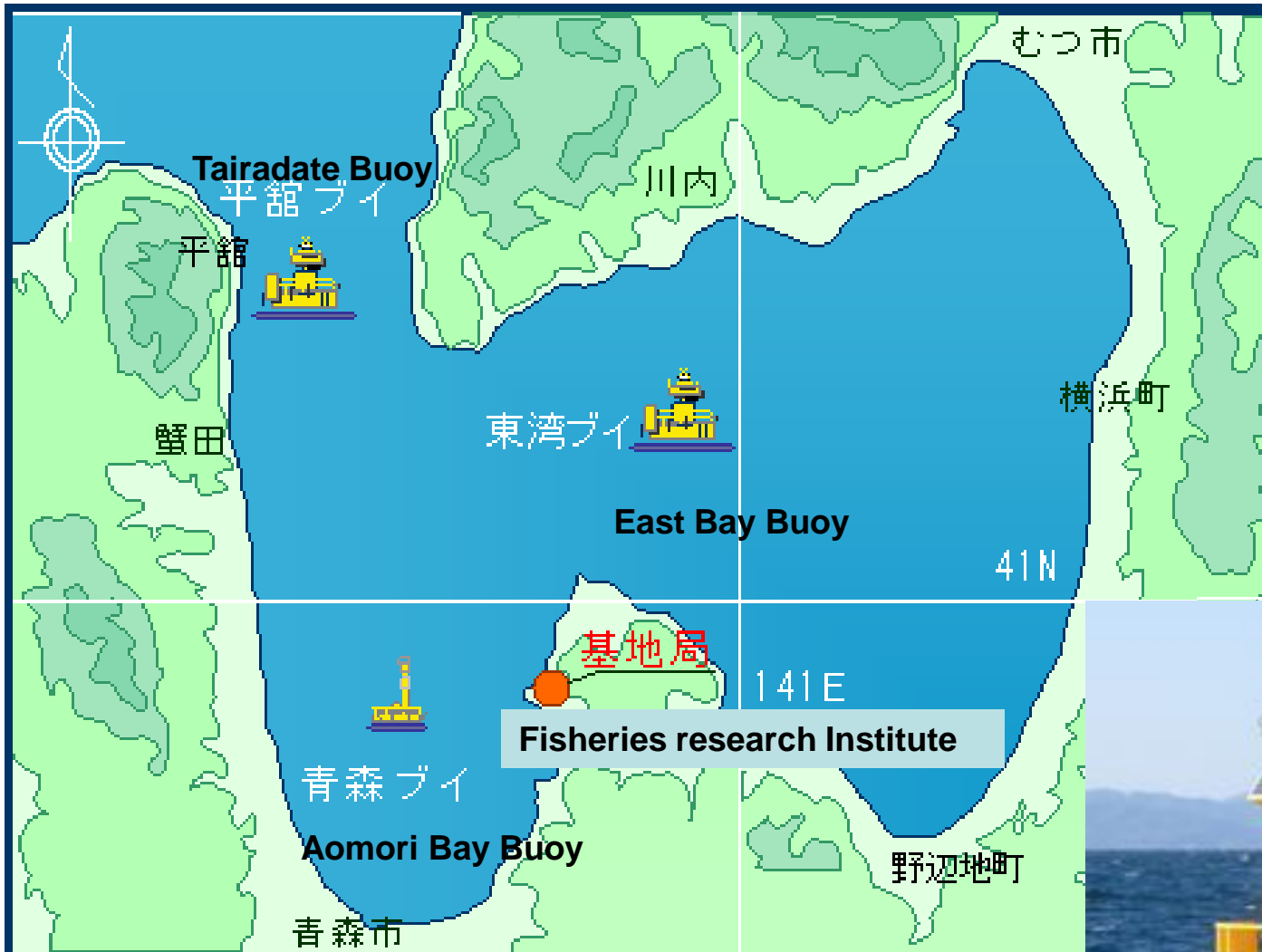


Fig. Basic Process of Scallop culture in Mutsu Bay

Fig. Monitoring of Environment condition In Mutsu Bay



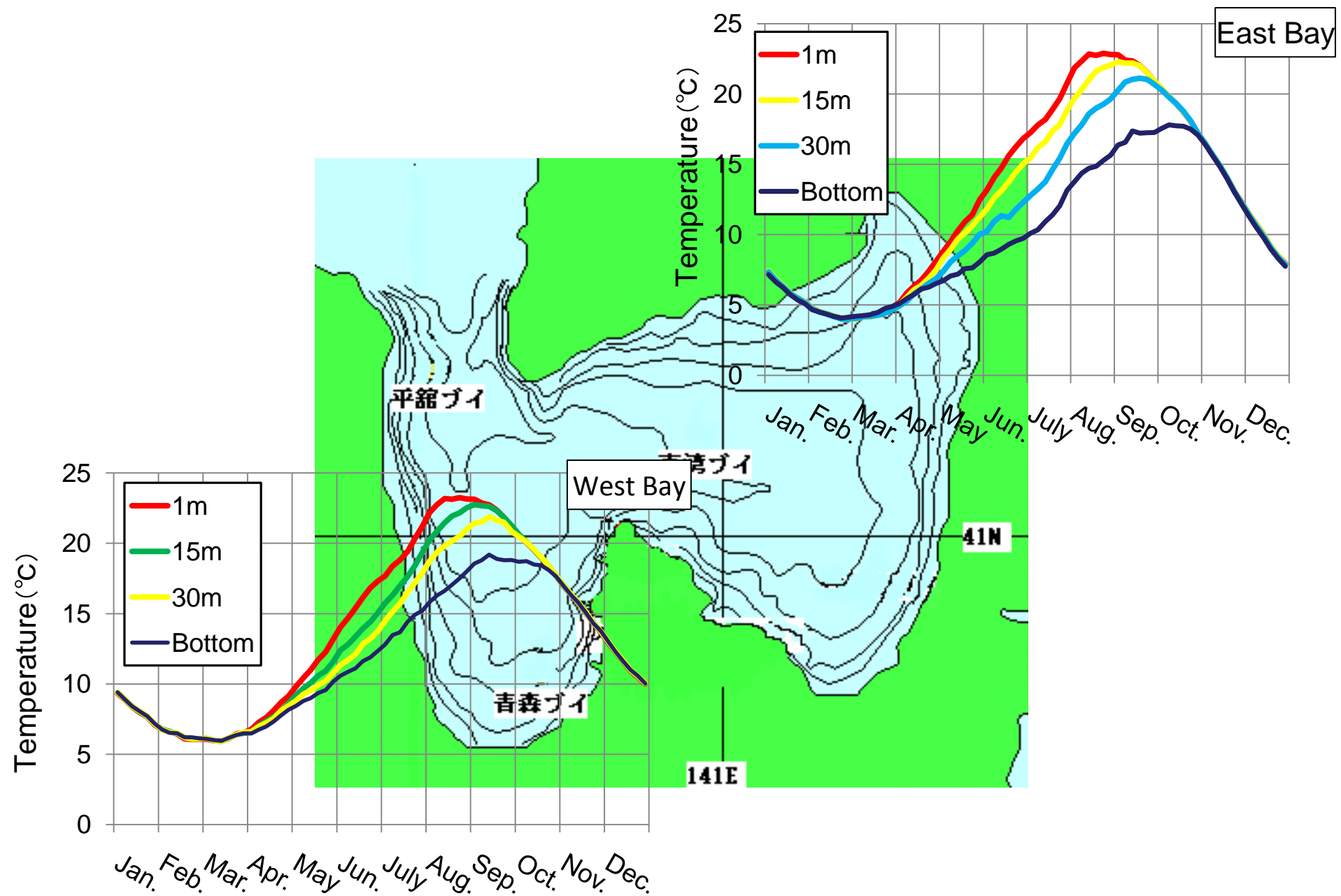


Fig. Changes in temperature in Mutsu bay

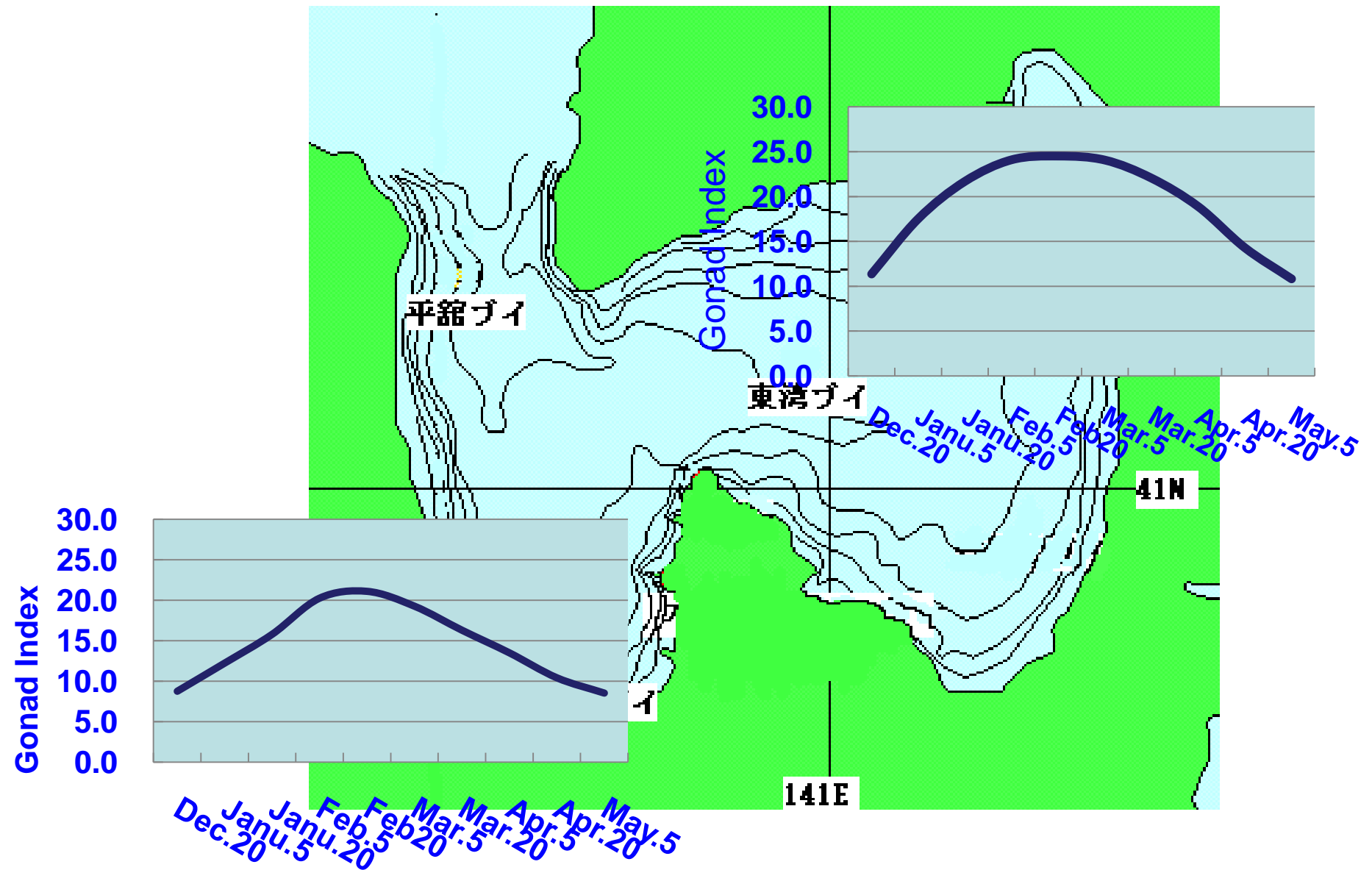


Fig. Changes in Gonad Index of Scallops

Fig. Maturation of Japanese scallops

Male
(White cream color)



Female
(Reddish orange
or pinkish color)



扇貝

Voice from the Coast

The two major scallop-producing regions in Japan are the coastal waters of Hokkaido and Mutsu Bay in Aomori Prefecture. These two areas have produced stable supplies of scallops in recent years, with Hokkaido producing more than 350,000 tons of scallops annually and Aomori Prefecture producing more than 80,000 tons each year. Hokkaido scallops are usually large and around 30 counts per kilogram, while scallops harvested from Mutsu Bay are much smaller and are called "baby scallops." These baby scallops are typically around 80-100 counts per kilogram and are marketed for home cooking. They are popular among consumers due to their ease of preparation in items such as salads, paella and stews. Consumers appreciate baby scallops for their excellent flavor and reasonable price. While scallops were traditionally prized as a luxury food, we hope that scallops will become a regular ingredient for home cooking.



Baby scallops are popular ingredients for home cooking



Dried Japanese scallops contain many umami ("savory") flavor components

SCALLOP

Hotate



Planned Productivity ; a key to world's second largest scallop output

Scallops have long been a very popular marine product in Japan, enjoyed both in processed form as well as raw. Due to their attractive appearance, scallops are frequently served on official occasions in Japan including banquets of the Japanese Imperial Court. The muscle of the scallop contains many umami ("savory") flavor components that make it ideal for use in XO sauces (spicy seafood sauce) and high-end oyster sauces used in Chinese cooking.

Japan produces approximately 500,000 tons of scallops per year, making it the world's second largest producer of scallops. Scallops are one of the top fishery products in Japan measured by volume of harvest. Japanese scallops, whether frozen, boiled or dried, are exported to many countries such as France, United States, China and Hong Kong, where they are typically used in French or Chinese cuisine as well as being prepared at home by consumers.

The substantial volume of scallop exports is supported by stable, year-round supplies of scallops that are realized through improvements in the breeding technique of scallop seedlings and other production methods. These advancements have enabled the Japanese scallop industry to engage in large scale production of scallop seedlings and achieve planned productivity of scallops.



Japanese scallops are popular in Western style dishes

Amount of catch
287,486 tons (2005)

Amount of aquaculture
203,352 tons (2005)

Main landing place
Hokkaido, Aomori